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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

May 11, 1981
NRC/TMI-81-028

MEMORANDUM FOR: Harold R. Denton, Director,
Office of Nuclear Reactor Regulation

Bernard J. Snyder, Program Director,
TMI Program Office

FROM: Lake H. Barrett, Acting Deputy Program Director,
TMI Program Office

SUBJECT: NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Enclosed is the status report for the period of May 3 - 9, 1981.

Lake H. Barrett
Acting Deputy Program Director
TMI Program Office

Enclosure: As stated

cc: EDO
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NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Week of May 3 - 9, 1981

Plant Status

Core Cooling Mode: Heat transfer from the reactor coolant system (RCS) loops to reactor building ambient.

Available Core Cooling Modes: Long-term cooling "B" (once through steam generator-B); decay heat removal systems.

RCS Pressure Control Mode: Standby Pressure Control (SPC) System.

Backup Pressure Control Modes: Mini Decay Heat Removal (MDHR) System.
Decay Heat Removal (DHR) System.

Major Parameters (as of 0430, May 1, 1981) (approximate values)
Average Incore Thermocouples: 112°F
Maximum Incore Thermocouple: 140°F

RCS Loop Temperatures:

	A	B
Hot Leg	112°F	115°F
Cold Leg (1)	65°F	65°F
(2)	66°F	65°F

RCS Pressure: 100 psig

Reactor Building: Temperature: 60°F
Water level: Elevation 290.7 ft. (8.2 ft. from floor) via penetration 401 manometer
Pressure: -.5 psig
Concentration: 1.5×10^{-5} Kr-85
(sample taken 5/4/81)

Effluent and Environmental (Radiological) Information

1. Liquid effluents from the TMI site released to the Susquehanna River after processing, were made within the regulatory limits and in accordance with NRC requirements and City of Lancaster Agreement dated February 27, 1980.

   During the period May 1, 1981, through May 7, 1981, the effluents contained no detectable radioactivity at the discharge point and individual effluent sources which originated within Unit 2 contained no detectable radioactivity.

2. Environmental Protection Agency (EPA) Environmental Data. Results from EPA monitoring of the environment around the TMI site were as follows:

-- The EPA measured Kr-85 concentrations (pCi/m^3) at several environmental monitoring stations and reported the following results:

Location	April 24 - May 1, 1981 (pCi/m^3)
Goldsboro	24
Observation Center	To be reported next week
Middletown	29
Yorkhaven	28

All of the above levels of Kr-85 are considered to be background levels.

-- No radiation above normally occurring background levels was detected in any of the samples collected from the EPA's air and gamma rate networks during the period from April 30, 1981, through May 7, 1981.

3. NRC Environmental Data. Results from NRC monitoring of the environment around the TMI site were as follows:

-- The following are the NRC air sample analytical results for the onsite continuous air sampler:

Sample	Period	I-131 (uCi/cc)	Cs-137 (uCi/cc)
HP-266	April 29, 1981 - May 6, 1981	<8.7 E-14	<8.7 E-14

4. Licensee Radioactive Material and Radwaste Shipments

-- On Monday, May 4, 1981, a 40 ml Unit 2 reactor coolant sample was sent to Babcock and Wilcox (B&W) Lynchburg, Virginia.

-- On Monday, May 4, 1981, a box containing assorted smears from Unit 1 were sent to the Westinghouse Electric Corporation, Madison, PA.

-- On Monday, May 4, 1981, a box containing assorted smears from Unit 1 were sent to Teledyne Isotopes, Westwood, N.J.

-- On Tuesday, May 5, 1981, two HN-100 liners containing solidified evaporator bottoms from Unit 1 were shipped to U. S. Ecology, Hanford, Washington.

-- On Thursday, May 7, 1981, assorted equipment used for the solidification of the Unit 1 evaporator bottoms was shipped to the Calvert Cliffs Nuclear Station, Lusby, Maryland.

-- On Thursday, May 7, 1981, a source range pre-amplifier from Unit 2 was sent to Sandia National Laboratories, Albuquerque, New Mexico.

Major Events

1. Reactor Building Entry and Purge. The tenth entry into the Unit II reactor building (RB) is scheduled for Thursday, May 14, 1981. Twenty-three men are expected to enter the RB. Four major tasks have been planned for the entry. These include:

    1. Sump water and sludge samples;
    2. Large scale decontamination experiment;
    3. Radiation survey of the control rod drive structure; and
    4. Installation of safety equipment on the polar crane.

    The sump water and sludge experiment is designed to retrieve six water samples from three elevations in the RB. Additionally, two samples will be taken near the RB floor (281 ft. level) to obtain samples of any solid matter which may have settled out of the water. Each sample volume will be approximately 80 ml. The samples will be shipped to EG&G laboratories for comprehensive analyses. The samples will be taken through an open hatch cover on the 305 feet level in the RB. The radiation levels in the area of the open hatch cover are expected to be between 10 and 20 R/hr. The five individuals assigned to retrieve the samples are not expected to exceed 850 mr each, of total body exposure.

    The decontamination experiment will include low and high pressure water sprays over a 2000 square foot area in the RB. Swipes and area surveys will be taken before and after the decontamination to assess the effectiveness of the decontamination techniques. Based on flow calculations, it is expected that a maximum of 580 gallons of water will be added to the RB sump during the experiment. Water previously processed by EPICOR II will be used. The three individuals involved in the decontamination experiment are not expected to exceed 850 mr each, of total body exposure.

    The control rod drive radiation survey is being performed in preparation for future work in the reactor head area. Safety equipment is being installed on the polar crane to facilitate future crane surveys and maintenance.

    A RB purge will commence one day prior to the entry. It is expected that less than three curies of Krypton 85 will be released during the purge.

2. Submerged Demineralizer System (SDS). Preparation of the Safety Evaluation Report (SER) by the TMI Program Office is in progress although some necessary information has not yet been received. On April 30, 1981, the licensee submitted a revised schedule for providing the needed information.

The licensee is performing functional tests of the SDS components to verify that the equipment will operate as designed. The testing does not involve processing of contaminated water. The licensee has pumped approximately 112,000 gallons of EPICOR II processed water into the fuel pool. The fuel pool will be completely filled when this phase of functional testing is completed and concerns raised about airborne tritium sampling are resolved (this item is discussed in the next paragraph).

3. Elevated Tritium Levels in Fuel Handling Building. As reported in the previous weekly event section, on April 29, 1981 at about 10:00 p.m., the licensee obtained an indicated tritium (H-3) airborne concentration of 3.1×10^{-5} uCi/cc (6 MPC) in the Fuel Handling Building (FHB) during the partial fill of "B" spent fuel pool. Following additional airborne samples the FHB was declared an airborne radioactivity area and the fuel pool filling operation was secured at 2:30 a.m., April 30, 1981.

Sampling of both the FHB exhaust (HP-R 221B) and plant stack effluent (HP-R 219) indicated no measurable increase in the H-3 effluents during this time. The licensee has determined that the flow through the tritium sampler pump was higher than expected (apparently greater than 7 l/min). With these higher sample flow rates the actual airborne H-3 concentration has been calculated to be well below the MPC value of 5×10^{-6} uCi/cc. The licensee is further evaluating this event and is scheduled to report their findings on 5/11/81. As a precaution bioassays have been completed on individuals who were in the area when the apparent high H-3 concentrations were noted. The bioassays detected no uptake of H-3.

Meeting Held

On Tuesday, May 4, 1981, Lake Barrett conducted a plant tour for area mothers and responded to general questions regarding the cleanup program of TMI Unit 2.

Future Meetings

1. On Wednesday, May 14, 1981, Lake Barrett, Oliver Lynch and Frank Congel will participate in a meeting with the Susquehanna Valley Alliance on the Programmatic Environmental Impact Statement. The meeting will be held at 7:30 p.m., in the Friends Meeting House in Lancaster at 110 Tulane Terrace.

2. On Thursday, June 4, 1981, the Advisory Panel for the Decontamination of Three Mile Island Unit 2 will meet from 7:00 p.m. to 10:00 p.m. in the City Council Chambers, Kendig C. Bare Public Safety Building, 208 North Duke Street, Lancaster. At this meeting, which is open for public observance, the Panel will discuss Radiation Worker Exposure and Health Effects.